



I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT  
COPY OF ONE OF THE CONTRACT DRAWINGS CON-  
STITUTING A PART OF CONTRACT NO. WTC-945.071  
IN THE FORM IN WHICH SAID DRAWINGS EXIST AT  
THE TIME THE SAID CONTRACT WAS EXECUTED BY  
THE PARTIES.  
DATE: 11/16/99 *Leslie E. Robertson*  
DATE: 1/16/98 *David Eliot Lebowitz*  
SPEECH WRITER  
ENGINEER OF DESIGN

No.	Date	Revision	Approved
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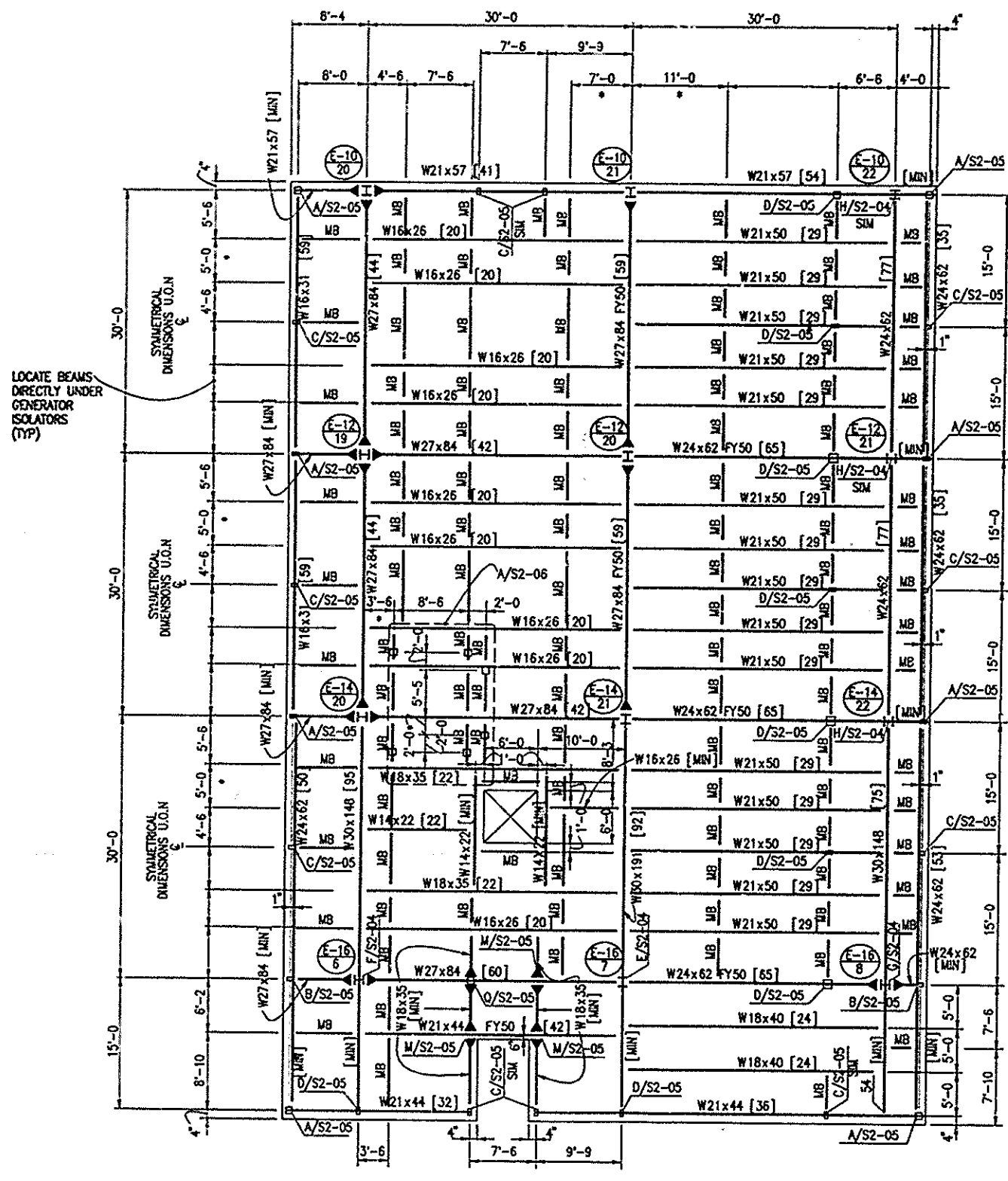
Engineering Department
Design Divisions

The  
World  
Trade  
Center

Title  
**STANDBY POWER  
5 WORLD TRADE CENTER**  
**STRUCTURAL**  
**5 WTC BULKHEAD  
FLOOR AND ROOF  
PLANS**

This drawing subject to conditions in contract.  
All inventions, ideas, designs and methods  
herein are reserved to Port Authority and  
may not be used without its written consent.

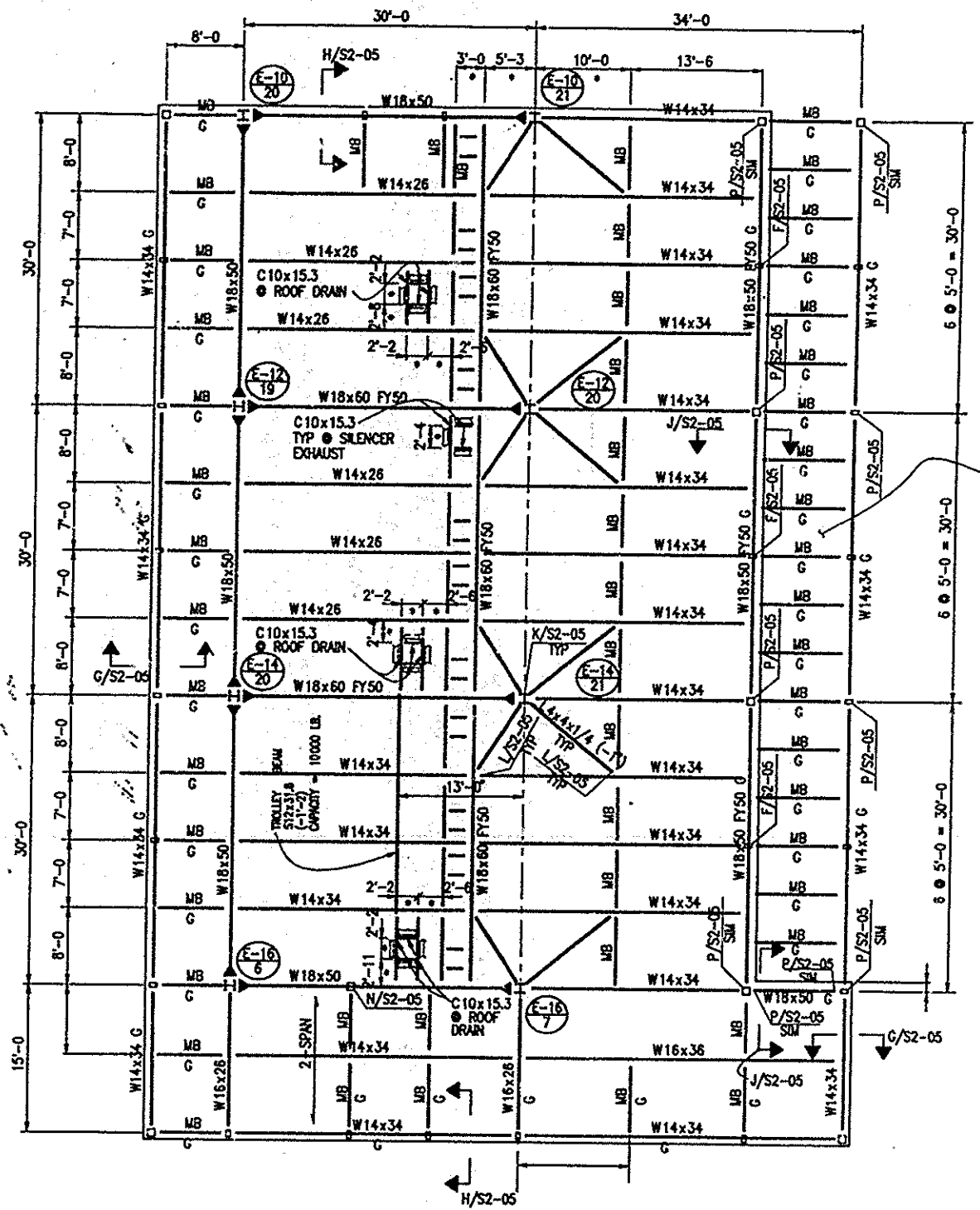
Drawn by	Check by	Date	Scale
WLB	BAZ	11/17/97	AS NOTED
Contract Number	Drawing Number		
WTC-945.071	S2-02		



**BULKHEAD FRAMING**

REF. EL. = 444'-8"

- NOTES:
1. TOP OF CONCRETE IS AT REFERENCE ELEVATION U.O.N. THIS [XXX]
  2. TOP OF STRUCTURAL STEEL IS (-6") BELOW REFERENCE ELEVATION U.O.N. THIS [XXX].
  3. NEW FLOOR CONSTRUCTION IS 4" LIGHTWEIGHT CONCRETE (FC = 4000 PSI) OVER 2" COMPOSITE STEEL DECK, TYPE D1, U.O.N.
  4. STEEL DECK IS 18 GAGE MINIMUM FOR 2 OR 3 SPAN CONDITION. STEEL DECK IS 16 GAGE MINIMUM FOR 1 SPAN CONDITION. FOR SPANS GREATER THAN 7'-0" AND SMALLER THAN 8'-10", STEEL DECK SPANS NORTH/SOUTH UNLESS NOTED.
  5. STRUCTURAL STEEL BEAMS SHALL BE FY36 U.O.N. AS FY50
  6. NUMBER OF 3/4"x4" LONG STUD SHEAR CONNECTORS APPLIED TO THE TOP FLANGE OF PCAM IS NOTED THIS [XX].
  7. MB = MINIMUM BEAM, W12x16 FY36, STUDS = [MIN] U.O.N.
  8. DIMENSIONS WITH \* NEED BE VERIFIED AND ADJUSTED AS NEEDED ONCE ACTUAL EQUIPMENT IS SELECTED. ADJACENT DIMENSIONS NEED BE ADJUSTED ACCORDINGLY.
  9. WIDE FLANGE I STRUCTURAL STEEL COLUMNS ARE W14x109 FY50 U.O.N.; SQUARE POST COLUMNS ARE 15 6"x6"x1/4" FY45 U.O.N.; FOR POSTS AROUND PERIMETER SEE S2-03.



**BULKHEAD ROOF FRAMING**

REF. EL. = 458'-10"

- NOTES:
1. TOP OF STRUCTURAL STEEL IS AT REFERENCE ELEVATION U.O.N. THIS [XXX].
  2. ROOF CONSTRUCTION IS 1-1/2" DEEP ROOF DECK, 18 GAGE MIN. U.O.N. USE 4-SPAN DECK SPANNING THE NORTH/SOUTH DIRECTION U.O.N.
  3. STRUCTURAL STEEL SHAPES SHALL BE FY36 U.O.N. AS FY50
  4. MB = MINIMUM BEAM, W12x16 FY36, STUDS = [MIN] U.O.N.
  5. DIMENSIONS WITH \* NEED BE VERIFIED AND ADJUSTED AS NEEDED ONCE ACTUAL EQUIPMENT IS SELECTED. ADJACENT DIMENSIONS NEED BE ADJUSTED ACCORDINGLY.
  6. WIDE FLANGE I STRUCTURAL STEEL COLUMNS ARE W14x109 FY50 U.O.N.; SQUARE POST COLUMNS ARE 15 6"x6"x1/4" FY45 U.O.N.; FOR POSTS AROUND PERIMETER SEE S2-03.
  7. STRUCTURAL STEEL ABOVE PENTHOUSE FLOOR SHALL BE PAINTED WITH A ZINC-RICH SHOP PRIMER. STRUCTURAL STEEL NOTED "C" SHALL BE GALVANIZED.

